Applicant: ZHI et al. Serial No.: 10/590,119 Amendment and Response

Filed : June 11, 2007

## AMENDMENTS TO THE CLAIMS:

Claims 1-25, 27-35, 62-70, 72-78 and 82-86 are pending. Please add claims 83-86 and amend claims 1, 2, 6, 7, 28-30 and 62 as indicated below. This listing of claims replaces all prior versions, and listings of claims, in the application.

## LISTING OF CLAIMS:

1. (Currently amended) A compound of Formula II:

$$R^{6a}$$
 $R^{7a}$ 
 $R^{12}$ 
 $R^{13}$ 
 $R^{13}$ 
 $R^{10}$ 
 $R^{10}$ 

wherein:

R<sup>1</sup> is selected from among SR<sup>A</sup>, NO<sub>2</sub>, CN, an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl, an optionally substituted C<sub>1</sub>-C<sub>4</sub> heteroalkyl, COR<sup>A</sup>, CO<sub>2</sub>R<sup>A</sup>, CONR<sup>A</sup>R<sup>B</sup>, SOR<sup>A</sup>, and SO<sub>2</sub>R<sup>A</sup>;

R<sup>2</sup> is selected from among hydrogen, F, Cl, Br, I, OR<sup>A</sup>, SR<sup>A</sup>, NO<sub>2</sub>, CN, an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl, an optionally substituted C<sub>1</sub>-C<sub>4</sub> heteroalkyl, COR<sup>A</sup>, CO<sub>2</sub>R<sup>A</sup>, CONR<sup>A</sup>R<sup>B</sup>, SOR<sup>A</sup>, SO<sub>2</sub>R<sup>A</sup>, and SO<sub>2</sub>NR<sup>A</sup>R<sup>B</sup>, NHCOR<sup>A</sup>, and NHCONRARB;

R<sup>3</sup>, R<sup>4</sup>, and R<sup>5</sup> each independently is selected from among hydrogen, F, Cl, OR<sup>A</sup>, an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, and an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl; provided that if R<sup>1</sup> is NO<sub>2</sub> and R<sup>3</sup> is F, then Z is not O;

R<sup>6a</sup> and R<sup>7a</sup> each independently is selected from among hydrogen, an optionally substituted C<sub>1</sub>-C<sub>6</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> haloalkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> heteroalkyl, an optionally substituted C<sub>2</sub>-C<sub>6</sub> alkynyl, and an optionally substituted C<sub>2</sub>-C<sub>6</sub> alkenyl; or R<sup>6a</sup> and R<sup>7a</sup> together form a carbonyl;

R<sup>9</sup> is selected from an optionally substituted C<sub>1</sub>-C<sub>8</sub> alkyl, an optionally substituted C<sub>2</sub>-C<sub>8</sub> alkenyl, an optionally substituted C<sub>1</sub>-C<sub>8</sub> haloalkyl, an optionally substituted C<sub>2</sub>-C<sub>8</sub> haloalkenyl, C<sub>1</sub>-C<sub>8</sub> heteroalkyl, an optionally substituted C<sub>2</sub>-C<sub>8</sub> heteroalkenyl, an optionally substituted C<sub>2</sub>-C<sub>8</sub> alkynyl, an optionally substituted C<sub>2</sub>-C<sub>8</sub> haloalkynyl, an optionally

Attorney's Docket No.: 3800024-00324 / 1112US
Amendment and Response

Applicant: ZHI et al. Attorney's Do Serial No.: 10/590,119

Serial No.: 10/390,119
Filed: June 11, 2007

substituted  $C_2$ - $C_8$  heteroalkynyl, an optionally substituted aryl, an optionally substituted heteroaryl,  $CH(R^D)OR^A$ ,  $CH(R^D)NR^AR^B$ ,  $COR^A$ ,  $CO_2R^A$ , and  $(CH_2)_mR^C$ ;

 $R^{10}$  is selected from among hydrogen, an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  haloalkyl, an optionally substituted  $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, and an optionally substituted  $C_2$ - $C_6$  alkenyl;

 $R^{12}$  and  $R^{13}$  each independently is selected from among hydrogen, F, Cl,  $OR^A$ ,  $NR^AR^B$ ,  $SR^A$ , an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, an optionally substituted  $C_2$ - $C_6$  alkenyl, and  $(CH_2)_mR^C$ ;

 $R^A$  and  $R^B$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  heteroalkyl;

 $R^{C}$  is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN,  $OR^{A}$ ,  $NO_{2}$ ,  $NR^{A}R^{B}$ ,  $SR^{A}$ ,  $SOR^{A}$ ,  $SO_{2}R^{A}$ , an optionally substituted  $C_{1}$ - $C_{4}$  alkyl, an optionally substituted  $C_{1}$ - $C_{4}$  haloalkyl, and an optionally substituted  $C_{1}$ - $C_{4}$  heteroalkyl;

 $R^D$  is selected from among hydrogen, an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  haloalkyl, and an optionally substituted  $C_1$ - $C_4$  heteroalkyl;

Z is selected from among O, S, CR<sup>A</sup>R<sup>B</sup>, and NR<sup>D</sup>;

n is 0, 1, or 2; and

m is 1 or 2;

or a pharmaceutically acceptable salt, ester, or amide thereof.

2. (Currently amended) The compound of claim 1, wherein:

R<sup>1</sup> is selected from among NO<sub>2</sub>, CN, COR<sup>A</sup>, CO<sub>2</sub>R<sup>A</sup>, and CONR<sup>A</sup>R<sup>B</sup>;

 $R^2$  is selected from among hydrogen, F, Cl, Br, I,  $OR^A$ ,  $SR^A$ ,  $NO_2$ , CN, an optionally substituted  $C_1$ - $C_4$ -alkyl, an optionally substituted  $C_1$ - $C_4$  heteroalkyl,  $COR^A$ ,  $CO_2R^A$ ,  $CONR^AR^B$ ,  $SOR^A$ ,  $SO_2R^A$ , and  $SO_2NR^AR^B$ ,  $NHCOR^A$ , and  $NHCONR^AR^B$ :

 $R^3$ ,  $R^4$ , and  $R^5$  each independently is selected from among hydrogen, F, Cl,  $OR^A$ , an optionally substituted  $C_1$ - $C_4$  alkyl, and an optionally substituted  $C_1$ - $C_4$  haloalkyl;

provided that if R<sup>1</sup> is NO<sub>2</sub> and R<sup>3</sup> is F, then Z is not O;

 $R^{6a}$  and  $R^{7a}$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  haloalkyl, an optionally substituted

Attorney's Docket No.: 3800024-00324 / 1112US

Amendment and Response

Serial No.: 10/590,119 Filed: June 11, 2007

Applicant: ZHI et al.

 $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkenyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkynyl, an optionally substituted  $C_2$ - $C_6$  alkenyl; or  $R^{6a}$  and  $R^{7a}$  together form a carbonyl;

 $R^9$  is selected from among an optionally substituted  $C_1$ - $C_8$  alkyl, an optionally substituted  $C_2$ - $C_8$  alkenyl, an optionally substituted  $C_1$ - $C_8$  haloalkyl, an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl, an optionally substituted  $C_2$ - $C_8$  haloalkenyl,  $C_1$ - $C_8$  heteroalkyl, an optionally substituted  $C_2$ - $C_8$  alkynyl, an optionally substituted  $C_2$ - $C_8$  haloalkynyl, an optionally substituted  $C_2$ - $C_8$  heteroalkynyl, an optionally substituted  $C_2$ - $C_8$  heteroalkynyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkenyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkynyl, an optionally substituted heteroaryl,  $CH(R^D)OR^A$ ,  $CH(R^D)NR^AR^B$ ,  $COR^A$ ,  $CO_2R^A$  and  $CH_2$ 

 $R^{10}$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  haloalkyl, an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkenyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkynyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, and an optionally substituted  $C_2$ - $C_6$  alkenyl;

 $R^{12}$  and  $R^{13}$  each independently is selected from among hydrogen, F, Cl,  $OR^A$ ,  $NR^AR^B$ ,  $SR^A$ , an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkenyl, an optionally substituted  $C_2$ - $C_6$  heterohaloalkynyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, an optionally substituted  $C_2$ - $C_6$  alkenyl, and  $(CH_2)_mR^C$ ;

 $R^A$  and  $R^B$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  heteroalkyl;

 $R^{C}$  is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN,  $OR^{A}$ ,  $NO_{2}$ ,  $NR^{A}R^{B}$ ,  $SR^{A}$ ,  $SOR^{A}$ ,  $SO_{2}R^{A}$ , an optionally substituted  $C_{1}$ - $C_{4}$  alkyl, an optionally substituted  $C_{1}$ - $C_{4}$  heteroalkyl;

 $R^D$  is selected from among hydrogen, an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  haloalkyl, and an optionally substituted  $C_1$ - $C_4$  heteroalkyl; Z is selected from among O, S,  $CR^AR^B$ , and  $NR^D$ ;

Serial No.: 10/590,119 Filed: June 11, 2007

n is 0, 1, or 2; and

m is 1 or 2.

- 3. (Previously presented) The compound of claim 1, wherein R<sup>1</sup> is NO<sub>2</sub> or CN.
- 4. (Previously presented) The compound of claim 1, wherein R<sup>1</sup> is NO<sub>2</sub>.
- 5. (Previously presented) The compound of claim 1, wherein R<sup>1</sup> is CN.
- 6. (Currently amended) The compound of claim 1, wherein  $R^2$  is an optionally substituted  $C_1$ - $C_4$  haloalkyl.
- 7. (Currently amended) The compound of claim 1, wherein  $R^2$  is  $C_1$ - $C_4$ -alkyl or trifluoromethyl.
- 8. (Previously presented) The compound of claim 1, wherein  $R^3$ ,  $R^4$ , and  $R^5$  each independently is selected from among hydrogen, F, Cl, and an optionally substituted  $C_1$ - $C_4$  alkyl.
  - 9. (Previously presented) The compound of claim 1, wherein R<sup>3</sup> is hydrogen.
  - 10. (Previously presented) The compound of claim 1, wherein R<sup>4</sup> is hydrogen.
  - 11. (Previously presented) The compound of claim 1, wherein R<sup>5</sup> is hydrogen.
- 12. (Previously presented) The compound of claim 1, wherein  $R^{6a}$  and  $R^{7a}$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_6$  alkyl, and an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl or  $R^{6a}$  and  $R^{7a}$  together form a carbonyl.
  - 13. (Previously presented) The compound of claim 1, wherein  $R^{6a}$  is hydrogen.
- 14. (Previously presented) The compound of claim 1, wherein  $R^{7a}$  is hydrogen or an optionally substituted  $C_1$ - $C_6$  alkyl.
- 15. (Previously presented) The compound of claim 1, wherein  $R^{7a}$  is hydrogen or methyl.
  - 16. (Previously presented) The compound of claim 1, wherein R<sup>7a</sup> is hydrogen.
  - 17. (Previously presented) The compound of claim 1, wherein R<sup>7a</sup> is methyl.
- 18. (Previously presented) The compound of claim 1, wherein  $R^{6a}$  and  $R^{7a}$  together form a carbonyl.
- 19. (Previously presented) The compound of claim 1, wherein  $R^{12}$  is selected from among hydrogen, F, Cl,  $OR^A$ , an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl and  $(CH_2)_mR^C$ .
  - 20. (Previously presented) The compound of claim 1, wherein  $R^{10}$  is hydrogen.

Applicant: ZHI et al. Amendment and Response Serial No.: 10/590,119 Filed : June 11, 2007

21. (Previously presented) The compound of claim 1, wherein R<sup>9</sup> is selected from among an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, C<sub>1</sub>-C<sub>6</sub> haloalkyl, CH(R<sup>D</sup>)OR<sup>A</sup>, and CH(RD)NRARB.

- 22. (Previously presented) The compound of claim 1, wherein R<sup>9</sup> is formyl, hydroxy C<sub>1</sub>-C<sub>6</sub>alkyl, hydroxyhalo C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkylsilyloxy C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>alkoxycarbonyl, amino C<sub>1</sub>-C<sub>6</sub>alkyl, carboxy, or C<sub>1</sub>-C<sub>6</sub>alkylcarbonyloxyC<sub>1</sub>-C<sub>6</sub>alkyl.
- 23. (Previously presented) The compound of claim 1, wherein R<sup>9</sup> is formyl, hydroxymethyl, 1-hydroxy-2,2,2-trifluoroethyl, tributylsilyloxymethyl, ethoxycarbonyl, aminomethyl, carboxy, or acetyoxymethyl.
- 24. (Previously presented) The compound of claim 1, wherein  $R^{12}$  and  $R^{13}$  each independently is selected from among hydrogen, F, Cl, OR<sup>A</sup>, an optionally substituted C<sub>1</sub>-C<sub>6</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> haloalkyl and (CH<sub>2</sub>)<sub>m</sub>R<sup>C</sup>.
- 25. (Previously presented) The compound of claim 1, wherein R<sup>13</sup> is hydrogen, F, OH or benzyl.
  - 26. (Cancelled).
  - 27. (Previously presented) The compound of claim 1 of formula IIB:

$$R^{6a}$$
 $R^{7a}$ 
 $R^{12}$ 
 $R^{13}$ 
 $R^{2}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 
 $R^{1}$ 

28. (Currently amended) The compound of claim 1, wherein R<sup>1</sup> is NO<sub>2</sub> or CN; R<sup>2</sup> is hydrogen, optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl or an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl;

R<sup>3</sup>, R<sup>4</sup>, and R<sup>5</sup> each independently is selected from among hydrogen, F, Cl, and an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl;

R<sup>6a</sup> and R<sup>7a</sup> each independently is selected from among hydrogen and an optionally substituted C<sub>1</sub>-C<sub>6</sub> alkyl; an optionally substituted C<sub>1</sub>-C<sub>6</sub> heterohaloalkyl, or R<sup>6a</sup> and R<sup>7a</sup> together form a carbonyl;

Applicant: ZHI et al. Amendment and Response

Serial No.: 10/590,119 : June 11, 2007

R<sup>9</sup> is selected from among F, Cl, Br, I, an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> heterohaloalkyl, COR<sup>A</sup>, CO<sub>2</sub>R<sup>A</sup>, CH(R<sup>D</sup>)OR<sup>A</sup>, and  $CH(R^{D})NR^{A}R^{B}$ ;

R<sup>10</sup> is hydrogen; and

R<sup>12</sup> and R<sup>13</sup> each independently is selected from among hydrogen, F, Cl, OR<sup>A</sup>, an optionally substituted C<sub>1</sub>-C<sub>6</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> heterohaloalkyl and  $(CH_2)_m R^C$ .

29. (Currently amended) The compound of claim 1, wherein:

R<sup>1</sup> is NO<sub>2</sub> or CN;

R<sup>2</sup> is hydrogen or trifluoromethyl;

R<sup>3</sup>, R<sup>4</sup>, and R<sup>5</sup> each is hydrogen;

R<sup>7a</sup> is hydrogen or methyl and R<sup>6a</sup> is hydrogen; or R<sup>6a</sup> and R<sup>7a</sup> together form a carbonyl;

R<sup>9</sup> is selected from among formyl, hydroxymethyl, 1-hydroxy-2,2,2-trifluoroethyl, tributylsilyloxymethyl, ethoxycarbonyl, aminomethyl, carboxy, and acetyloxymethyl;

R<sup>10</sup> is hydrogen;

R<sup>12</sup> is hydrogen; and

R<sup>13</sup> is selected from among hydrogen, F, OH and benzyl.

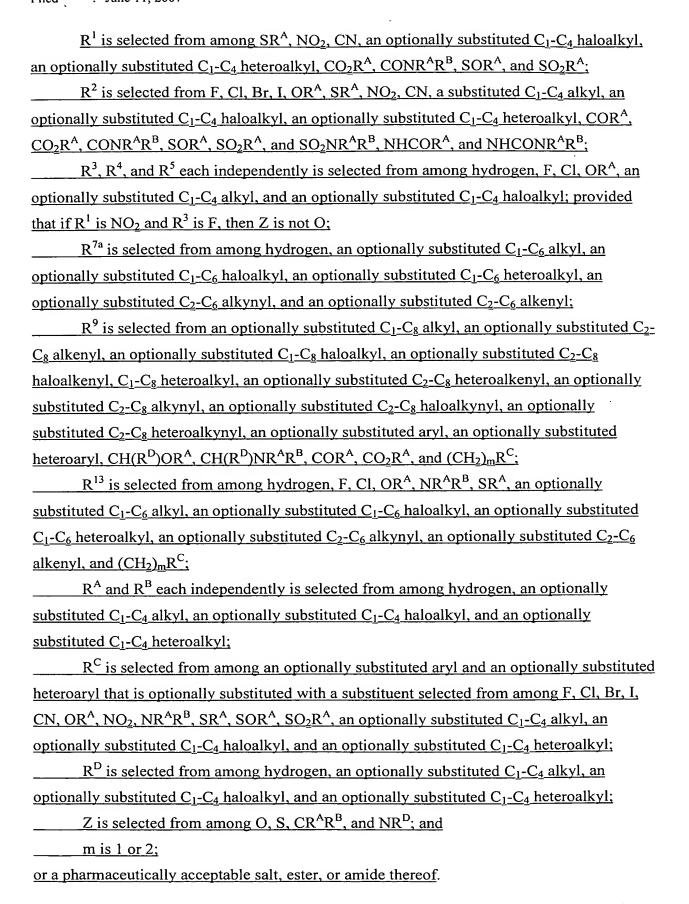
30. (Currently amended) The compound of claim-1, wherein the A compound that is selected from among:

$$R^{7a}$$
 $R^{7a}$ 
 $R$ 

· Applicant : ZHI et al. Serial No.: 10/590,119 Filed

Attorney's Docket No.: 3800024-00324 / 1112US

Amendment and Response : June 11, 2007



Serial No.: 10/590,119 Filed: June 11, 2007

31. (Original) The compound of claim 30, wherein  $R^{7a}$  is an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl.

- 32. (Original) The compound of claim 30, wherein  $R^9$  is an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl.
- 33. (Original) The compound of claim 30, wherein  $R^{13}$  is an optionally substituted  $C_1$ - $C_6$  heterohaloalkyl.
  - 34. (Previously presented) The compound of claim 30, wherein the compound is:

$$R^{2}$$
 $R^{13}$ 
 $R^{13}$ 

35. (Previously presented) The compound of claim 30, wherein the compound is:

$$R^{7a}$$
 $R^{7a}$ 
 $R^{13}$ 
 $R^{9}$ 
 $R^{7a}$ 
 $R^{9}$ 
 $R^{7a}$ 
 $R^{7a}$ 

36. - 61. (Cancelled).

- 62. (Currently amended) A compound of claim 1, wherein the compound is selected from among:
  - (5*R*)-*N*-(4-nitrophenyl)-5-(dimethyl-tert-butylsilyloxymethyl)-2-pyrrolidone (compound 104);
- (5R) N-(4-nitrophenyl)-5-(hydroxymethyl)-2-pyrrolidone (compound-105);
- (2*R*)-*N*-(4-nitro-3-trifluoromethylphenyl)-2-(dimethyl-tert-butylsilyloxymethyl)-pyrrolidine (compound 106);
  - (2*R*)-*N*-(4-nitro-3-trifluoromethylphenyl)-2-(hydroxymethyl)pyrrolidine (compound 108);

- Applicant: ZHI et al. Attorney's Docket No.: 3800024-00324 / 1112US Serial No.: 10/590,119

Amendment and Response

Filed : June 11, 2007

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— (2R)-N-(4-nitrophenyl)-2-(hydroxymethyl)pyrrolidine (compound-109);
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- (2R)-N-(3-Trifluoromethyl-4-nitrophenyl)-2-formylpyrrolidine (compound 110);
- (2*R*)-*N*-(3-Trifluoromethyl-4-nitrophenyl)-2-(1-(*S*)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine (compound 1-1-1);
- (2*R*)-*N*-(3-Trifluoromethyl-4-nitrophenyl)-2-(1-(R)-hydroxy-2,2,2-trifluoroethyl)-pyrrolidine (compound-112);
- (2S)-N-(4-nitrophenyl)-2-(hydroxymethyl)pyrrolidine (compound 113);
- (2R)-N-(4-nitrophenyl)-2-(1-(S)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine (compound 114);
- (2R)-N (4-nitrophenyl)-2-(R) (1-(R) hydroxy-2,2,2-trifluoroethyl)pyrrolidine (compound 1-15);
- (2S)-N-(4-nitrophenyl)-2-(1-(S)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine (compound 116);
- (2S) N-(4-nitrophenyl) 2 (1-(R) hydroxy 2,2,2-trifluoroethyl)pyrrolidine (compound 117); cis-2,5-Dimethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine (compound 120); trans-2,5-dimethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine (compound 121);
- —4 (2-Hydroxymethyl-pyrrolidin-1-yl)-benzonitrile (compound 125);
  - 4-Benzyl-2-hydroxymethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine (compound 126);
  - 2-Fluoro-4-(2-hydroxymethyl-pyrrolidin-1-yl)-benzonitrile (compound 127);
- 4-Hydroxy-1-(4-nitrophenyl)-pyrrolidine 2-carboxylic acid ethyl ester (compound 128);
- 4-Hydroxy-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine-2-carboxylic acid ethyl ester (compound 129);
  - 5-Hydroxymethyl-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidin-3-ol (compound 130);
  - 2-(Aminomethyl)-1-(4-Nitro-3-trifluoromethylphenyl)-pyrrolidine (compound 131);
- 4-Hydroxy-1-(4-nitrophenyl)-pyrrolidine-2-carboxylic acid (compound 132); and
- 4-Hydroxy-1-(4-nitro-3-trifluoromethylphenyl)-pyrrolidine-2-carboxylic acid (compound 133); and pharmaceutically acceptable salts, esters, and amides thereof.
- 63. (Previously presented) The compound of claim 1, wherein the compound is a selective androgen receptor modulator.
- 64. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor agonist.
- 65. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor antagonist.
- 66. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is an androgen receptor partial agonist.

Filed : June 11, 2007

67. (Previously presented) The selective androgen receptor modulator of claim 63, wherein the compound is a tissue-specific modulator.

- 68. (Previously presented) The compound of claim 1, wherein the compound is a selective androgen binding compound.
- 69. (Withdrawn) A method for modulating an activity of an androgen receptor, comprising contacting an androgen receptor with a compound of claim 1.
  - 70. (Withdrawn) The method of claim 69, wherein the androgen receptor is in a cell.
  - 71. (Cancelled).
- 72. (Withdrawn) A method for treating a patient having a condition susceptible to treatment with an androgen receptor modulator, comprising administering to the patient a pharmaceutical agent comprising a compound of claim 1.
- 73. (Withdrawn) The method of claim 72, wherein the condition is selected from among maintenance of muscle strength and function; reversal or prevention of frailty or agerelated functional decline in the elderly; treatment of catabolic side effects of glucocorticoids; treatment of reduced bone mass, density or growth; treatment of chronic fatigue syndrome; chronic myalgia; treatment of acute fatigue syndrome and muscle loss; accelerating of wound healing; accelerating bone fracture repair; accelerating healing of complicated fractures; in joint replacement; prevention of post-surgical adhesion formation; acceleration of tooth repair or growth; maintenance of sensory function; treatment of periodontal disease; treatment of wasting secondary to fractures and treatment of wasting in connection with chronic obstructive pulmonary disease, treatment of wasting in connection with chronic liver disease, treatment of wasting in connection with AIDS, cancer cachexia, burn and trauma recovery, chronic catabolic state, eating disorders and chemotherapy; treatment of cardiomyopathy; treatment of thrombocytopenia; treatment of growth retardation in connection with Crohn's disease; treatment of short bowel syndrome; treatment of irritable bowel syndrome; treatment of inflammatory bowel disease; treatment of Crohn's disease and ulcerative colitis; treatment of complications associated with transplantation; treatment of physiological short stature including growth hormone deficient children and short stature associated with chronic illness; treatment of obesity and growth retardation associated with obesity; treatment of anorexia; treatment of hypercortisolism and Cushing's syndrome; Paget's disease; treatment of osteoarthritis; induction of pulsatile growth hormone release; treatment of osteochondrodysplasias; treatment of depression, nervousness, irritability and stress; treatment of reduced mental energy and low self-esteem; improvement of cognitive function; treatment of

Filed : June 11, 2007

catabolism in connection with pulmonary dysfunction and ventilator dependency; treatment of cardiac dysfunction; lowering blood pressure; protection against ventricular dysfunction or prevention of reperfusion events; treatment of adults in chronic dialysis; reversal or slowing of the catabolic state of aging; attenuation or reversal of protein catabolic responses following trauma; reducing cachexia and protein loss due to chronic illness; treatment of hyperinsulinemia; treatment of immunosuppressed patients; treatment of wasting in connection with multiple sclerosis or other neurodegenerative disorders; promotion of myelin repair; maintenance of skin thickness; treatment of metabolic homeostasis and renal homeostasis; stimulation of osteoblasts, bone remodeling and cartilage growth; regulation of food intake; treatment of insulin resistance; treatment of insulin resistance in the heart; treatment of hypothermia; treatment of congestive heart failure; treatment of lipodystrophy; treatment of muscular atrophy; treatment of musculoskeletal impairment; improvement of the overall pulmonary function; treatment of sleep disorders; and the treatment of the catabolic state of prolonged critical illness; treatment of hirsutism, acne, seborrhea, androgenic alopecia, anemia, hyperpilosity, benign prostate hypertrophy, adenomas and neoplasias of the prostate and malignant tumor cells containing the androgen receptor; osteosarcoma; hypercalcemia of malignancy; metastatic bone disease; treatment of spermatogenesis, endometriosis and polycystic ovary syndrome; counteracting preeclampsia, eclampsia of pregnancy and preterm labor; treatment of premenstrual syndrome; treatment of vaginal dryness; age related decreased testosterone levels in men, male menopause, hypogonadism, male hormone replacement, male and female sexual dysfunction, male and female contraception, hair loss, Reaven's Syndrome and the enhancement of bone and muscle strength.

- 74. (Withdrawn) A method according to claim 72, wherein the patient has a condition selected from among acne, male-pattern baldness, wasting diseases, hirsutism, hypogonadism, osteoporoses, infertility, impotence and cancer.
- 75. (Withdrawn) A method for stimulating hematopoiesis in a patient, comprising administering to the patient a pharmaceutical agent comprising a compound of claim 1.
- 76. (Withdrawn) A method of contraception, comprising administering to a patient a pharmaceutical agent comprising a compound of claim 1.
- 77. (Withdrawn) A method of improving athletic performance in an athlete, comprising administering to the athlete a pharmaceutical agent comprising a compound of claim 1.
- 78. (Previously presented) A pharmaceutical composition, comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

Applicant: ZHI et al. Serial No.: 10/590,119 Amendment and Response : June 11, 2007

79. - 81. (Cancelled).

82. (Previously presented) An article of manufacture, comprising: packaging material;

a compound of claim 1 that is effective for modulating the activity of androgen receptor, or for treatment, prevention or amelioration of one or more symptoms of androgen receptor mediated diseases or disorders, or diseases or disorders in which androgen receptor activity is implicated, within the packaging material; and

a label that indicates that the compound or composition, or pharmaceutically acceptable derivative thereof, is used for modulating the activity of androgen receptor or for treatment, prevention or amelioration of one or more symptoms of androgen receptor mediated diseases or disorders, or diseases or disorders in which androgen receptor activity is implicated.

## 83. (New) A compound of Formula II:

$$R^{6a}$$
 $R^{7a}$ 
 $R^{12}$ 
 $R^{13}$ 
 $R^{2}$ 
 $R^{13}$ 
 $R^$ 

wherein:

R<sup>1</sup> is COR<sup>A</sup>, NO<sub>2</sub> or CN;

R<sup>2</sup> is selected from among hydrogen, F, Cl, Br, I, OR<sup>A</sup>, SR<sup>A</sup>, NO<sub>2</sub>, CN, an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl, an optionally substituted C<sub>1</sub>-C<sub>4</sub> heteroalkyl, COR<sup>A</sup>, CO<sub>2</sub>R<sup>A</sup>, CONR<sup>A</sup>R<sup>B</sup>, SOR<sup>A</sup>, SO<sub>2</sub>R<sup>A</sup>, and SO<sub>2</sub>NR<sup>A</sup>R<sup>B</sup>, NHCOR<sup>A</sup>, and NHCONR<sup>A</sup>R<sup>B</sup>;

R<sup>3</sup>, R<sup>4</sup>, and R<sup>5</sup> each independently is selected from among hydrogen, F, Cl, OR<sup>A</sup>, an optionally substituted C<sub>1</sub>-C<sub>4</sub> alkyl, and an optionally substituted C<sub>1</sub>-C<sub>4</sub> haloalkyl; provided that if R<sup>1</sup> is NO<sub>2</sub> and R<sup>3</sup> is F, then Z is not O;

R<sup>6a</sup> and R<sup>7a</sup> each independently is selected from among hydrogen, an optionally substituted C<sub>1</sub>-C<sub>6</sub> alkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> haloalkyl, an optionally substituted C<sub>1</sub>-C<sub>6</sub> heteroalkyl, an optionally substituted C<sub>2</sub>-C<sub>6</sub> alkynyl, and an optionally substituted C<sub>2</sub>-C<sub>6</sub> alkenyl; or R<sup>6a</sup> and R<sup>7a</sup> together form a carbonyl;

R<sup>9</sup> is selected from among CH(R<sup>D</sup>)OR<sup>A</sup>, CH(R<sup>D</sup>)NR<sup>A</sup>R<sup>B</sup>, COR<sup>A</sup> and CO<sub>2</sub>R<sup>A</sup>;

Serial No.: 10/590,119 Filed: June 11, 2007

 $R^{10}$  is selected from among hydrogen, an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  haloalkyl, an optionally substituted  $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, and an optionally substituted  $C_2$ - $C_6$  alkenyl;

 $R^{12}$  and  $R^{13}$  each independently is selected from among hydrogen, F, Cl,  $OR^A$ ,  $NR^AR^B$ ,  $SR^A$ , an optionally substituted  $C_1$ - $C_6$  alkyl, an optionally substituted  $C_1$ - $C_6$  heteroalkyl, an optionally substituted  $C_2$ - $C_6$  alkynyl, an optionally substituted  $C_2$ - $C_6$  alkenyl, and  $(CH_2)_mR^C$ ;

 $R^A$  and  $R^B$  each independently is selected from among hydrogen, an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  heteroalkyl;

 $R^{C}$  is selected from among an optionally substituted aryl and an optionally substituted heteroaryl that is optionally substituted with a substituent selected from among F, Cl, Br, I, CN,  $OR^{A}$ ,  $NO_{2}$ ,  $NR^{A}R^{B}$ ,  $SR^{A}$ ,  $SOR^{A}$ ;  $SO_{2}R^{A}$ , an optionally substituted  $C_{1}$ - $C_{4}$  alkyl, an optionally substituted  $C_{1}$ - $C_{4}$  heteroalkyl;

 $R^D$  is selected from among an optionally substituted  $C_1$ - $C_4$  alkyl, an optionally substituted  $C_1$ - $C_4$  haloalkyl, and an optionally substituted  $C_1$ - $C_4$  heteroalkyl;

Z is selected from among O, S, CR<sup>A</sup>R<sup>B</sup>, and NR<sup>D</sup>;

n is 0, 1, or 2; and

m is 1 or 2;

or a pharmaceutically acceptable salt, ester, or amide thereof.

- 84. (New) A compound of claim 83, wherein the compound is selected from among:
- (2*R*)-*N*-(4-nitrophenyl)-2-(1-(*S*)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;
- (2R)-N-(4-nitrophenyl)-2-(R)-(1-(R)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;
- (2*S*)-*N*-(4-nitrophenyl)-2-(1-(*S*)-hydroxy-2,2,2-trifluoroethyl)pyrrolidine;
- (2*S*)-*N*-(4-nitrophenyl)-2-(1-(*R*)-hydroxy-2;2,2-trifluoroethyl)pyrrolidine;
- 4-Hydroxy-1-(4-nitrophenyl)-pyrrolidine-2-carboxylic acid ethyl ester; and
- 4-Hydroxy-1-(4-nitrophenyl)-pyrrolidine-2-carboxylic acid;

and pharmaceutically acceptable salts, esters, and amides thereof.

- 85. (New) A pharmaceutical composition, comprising a compound of claim 83 and a pharmaceutically acceptable carrier.
- 86. (New) A pharmaceutical composition, comprising a compound of claim 30 and a pharmaceutically acceptable carrier.